

CLAIMS

1. A vital data utilization system, comprising:
 - a server;
 - a receiving apparatus; and
 - 5 a plurality of measurement instruments,
wherein said server, said receiving apparatus and said plurality of measurement instruments are connected to each other via a communication network,
each of said measurement instruments includes:
 - 10 a vital data measurement unit operable to measure vital data of a subject;
 - a clock unit operable to detect measurement time at which the vital data is measured; and
 - 15 a sending unit operable to send, to said server, a set of information including the measured vital data and the measurement time,
 - said server includes:
 - 20 a receiving unit operable to receive, from said plurality of measurement instruments, a plurality of sets of information, one of which being the set of information;
 - a storage unit operable to hold the plurality of sets of information;
 - 25 a database making unit operable to store the received plurality of sets of information into said storage unit and operable to make a database;
 - a value-added information making unit operable to compute the vital data of a plurality of subjects stored in the database and the respective measurement time in an associated manner and operable to make value-added information indicating changes over time of
30 the vital data of the plurality of subjects; and
 - a value-added information providing unit operable to provide said receiving apparatus with the made value-added information,

and

 said receiving apparatus includes

 an output unit operable to receive the value-added information provided by said value-added information providing unit,
5 operable to output, by presenting, the value-added information.

2. The vital data utilization system according to Claim 1,
 wherein said vital data measurement unit is operable to quantitatively measure the vital data of the subject, and

10 the value-added information indicates changes over time of average values of the plurality of subjects' vital data.

3. The vital data utilization system according to Claim 1,
 wherein said sending unit is operable to further add, to
15 respective sets of information, identification information for identifying a corresponding measurement instrument or subject and operable to send the respective sets of information including the identification information to said server,

20 said database making unit is operable to make individual databases where the sets of information for respective measurement instruments or subjects are stored based on the identification information, and

25 said value-added information making unit is operable to calculate differential values between the vital data included in the sets of information that are stored in the individual databases and previously-set standard values of the vital data, to average the calculated differential values concerning the plurality of subjects who satisfy a predetermined condition in a predetermined time segment, and operable to make value-added information indicating
30 changes over time of average values of the differential values concerning the plurality of subjects.

4. The vital data utilization system according to Claim 3,
wherein the plurality of subjects who satisfy the
predetermined condition are the subjects who measure vital data or
live in a same area of a predetermined geographical area.

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5. The vital data utilization system according to Claim 1,
wherein said sending unit is operable to further add, to
respective sets of information, subject identification information for
identifying a corresponding subject of said measurement instrument
10 and operable to send the subject identification information to said
server,

15 said database making unit is operable to make individual
subject databases where the sets of information for the plurality of
respective subjects are stored based on the subject identification
information, and

20 said value-added information making unit is operable to
calculate differential values between the respective vital data
included in the sets of information that are stored in the individual
subject databases and individual subject averages of the vital data
in a past predetermined period, operable to average the calculated
differential values concerning the plurality of subjects who satisfy a
predetermined condition in a predetermined time segment, and
operable to make value-added information indicating changes over
time of average values of the differential values concerning the
25 subjects.

30 6. The vital data utilization system according to Claim 5,
wherein the plurality of subjects who satisfy the
predetermined condition are the subjects who measure vital data or
live in a same area of a predetermined geographical area.

7. The vital data utilization system according to Claim 1,

wherein said database making unit is operable to update the database each time of receiving at least one new set of information, and

5 said value-added information making unit is operable to update the value-added information based on the updated database.

8. The vital data utilization system according to Claim 1, wherein said receiving apparatus is placed in at least one of a hospital, a public facility except a hospital and subject's house.

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9. The vital data utilization system according to Claim 1, wherein said vital data measurement unit is operable to measure vital data which is an indicator of an infection.

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10. The vital data utilization system according to Claim 9, wherein the vital data which is an indicator of an infection is at least one of body temperature, blood pressure, pulse, cardiograph, oxygen saturation in blood, accelerated pulse wave velocity, the number of white blood cells, C-reactive protein concentration in blood (CRP), protein concentration in urine, glucose concentration in urine, amino acid concentration in urine and feces viscosity.

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11. The vital data utilization system according to Claim 10, wherein the protein in urine is at least one of albumin, globulin, hemoglobin and myoglobin.

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12. The vital data utilization system according to Claim 1, wherein said vital data measurement unit is placed at housing equipment in the subject's house.

13. The vital data utilization system according to Claim 12,

wherein the housing equipment is a toilet apparatus or a bed, and

said vital data measurement unit includes at least one of a thermometer, a blood-pressure meter, a pulsimeter, an electrocardiograph and a meter of oxygen saturation in blood that are for measuring the vital data, and said vital data measurement unit measures the vital data at the time when the subject uses the toilet apparatus or the bed.

10 14. The vital data utilization system according to Claim 12, wherein the housing equipment is a toilet apparatus, and said vital data measurement unit includes a urine analyzer and measures the vital data at the time when the subject uses the toilet apparatus.

15 15. The vital data utilization system according to Claim 14, wherein the urine analyzer mixes urine of the subject and a reagent including an antibody that specifically combines with an analysis target component, measures turbidity of a resulting mixed solution, and measures the analysis target component in the urine.

20 16. The vital data utilization system according to Claim 1, wherein said server further includes a charging unit operable to calculate a charge for value-added information provided to said receiving apparatus.

25 17. The vital data utilization system according to Claim 16, wherein said server further include an incentive calculation unit operable to calculate an incentive to each subject.

30 18. The vital data utilization system according to Claim 17,

wherein said incentive calculation unit is operable to add, to a charge calculated by said charging unit, a value of the incentive to each subject.

- 5 19. The vital data utilization system according to Claim 17,
 wherein said incentive calculation unit is operable to calculate
 points to be exchanged for at least one of (i) a right to receive the
 value-added information, (ii) a right to receive a discount from a
 rate of the value-added information, (iii) a right to receive a free
10 distribution of or a discount from a sale price of a commodity to be
 used by said vital data measurement unit, (iv) a right to receive
 another service, and (v) a right to receive a free distribution of or a
 discount from a sale price of another commodity.
- 15 20. A server in a system in which said server, a receiving
 apparatus and a plurality of measurement instruments are
 connected to each other via a communication network, comprising:
 a receiving unit operable to receive, from the plurality of
 measurement instruments, a plurality of sets of information
20 including measured vital data and measurement time;
 a storage unit operable to hold the plurality of sets of
 information;
 a database making unit operable to store the received
 plurality of sets of information into said storage unit and operable to
25 make a database;
 a value-added information making unit operable to compute
 the vital data of a plurality of subjects stored in the database and the
 respective measurement time in an associated manner and operable
 to make value-added information indicating changes over time of
30 the vital data of the plurality of subjects; and
 a value-added information providing unit operable to provide
 said receiving apparatus with the made value-added information.

21. The server according to Claim 20,

wherein the receiving unit is operable to receive, from the plurality of measurement instruments, sets of information to which subject identification information for identifying a subject of each measurement instrument is further added,

said database making unit is operable to make individual subject databases where the sets of information for respective subjects are stored based on the subject identification information,

10 and

said value-added information making unit is operable to calculate differential values between the respective vital data included in the sets of information that are stored in the individual subject databases and previously-set standard values of the vital data, and operable to make value-added information indicating changes over time of the differential values concerning respective subjects.

22. The server according to Claim 20,

wherein said receiving unit is operable to receive, from said plurality of measurement instruments, sets of information to which subject identification information for identifying a subject of each measurement instrument is further added,

said database making unit is operable to make individual subject databases where the sets of information for respective subjects are stored based on the subject identification information,

25 and

said value-added information making unit is operable to calculate differential values between the respective vital data included in the sets of information that are stored in the individual subject databases and individual subject averages of the vital data in a past predetermined period, and operable to make value-added

information indicating changes over time of the differential values concerning the subjects.

23. The server according to Claim 20,

5 wherein said database making unit is operable to update the database each time of receiving at least one new set of information, and

 said value-added information making unit is operable to update the value-added information based on the updated database.

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24. A vital data utilization method in a system in which a server, a receiving apparatus, and a plurality of measurement instruments are connected to each other via a communication network, the vital data utilization method comprising:

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 in the measurement instruments,

 measuring vital data of a subject;

 detecting measurement time at which the vital data is measured; and

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 sending, to the server, a set of information including the measured vital data and the measurement time,

 in the server including a storage unit operable to hold a plurality of sets of information,

 receiving, from the measurement instruments, the plurality of sets of information, one of which being the set of information;

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 storing the received plurality of sets of information into the storage unit and making a database;

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 making value-added information indicating changes over time of the vital data of a plurality of subjects based on the sets of information of the plurality of subjects that are stored in the database; and

 providing the receiving apparatus with the made value-added information, and

in the receiving apparatus,
outputting the value-added information provided in said
providing of the value-added information.

- 5 25. A vital data utilization method for a server used in a system in
which the server, a receiving apparatus, and a plurality of
measurement instruments are connected to each other via a
communication network, the server including a storage unit
operable to hold a plurality of sets of information, the vital data
10 utilization method comprising:

receiving, from the plurality of measurement instruments,
the plurality of sets of information including measured vital data and
measurement time;

15 storing the received plurality of sets of information into the
storage unit and making a database;

making value-added information indicating changes over time
of the vital data of a plurality of subjects based on the sets of
information of the plurality of subjects that are stored in the
database; and

20 providing the receiving apparatus with the made value-added
information.

- 25 26. A program for a server in a system in which the server, a
receiving apparatus, and a plurality of measurement instruments
are connected to each other via a communication network, the
server including a storage unit operable to hold a plurality of sets of
information, the program causing a computer to execute:

30 receiving, from the plurality of measurement instruments,
the plurality of sets of information including measured vital data and
measurement time;

storing the received plurality of sets of information into the
storage unit and making a database;

making value-added information indicating changes over time of the vital data of a plurality of subjects based on the sets of information of the plurality of subjects that are stored in the database; and

- 5 providing the receiving apparatus with the made value-added information.

27. A computer-readable recording medium on which a computer-executable program is recorded, the program causing a
10 computer to execute:

receiving, from a plurality of measurement instruments, a plurality of sets of information including measured vital data and measurement time;

15 storing the received plurality of sets of information into the storage unit and making a database;

making value-added information indicating changes over time of the vital data of a plurality of subjects based on the sets of information of the plurality of subjects that are stored in the database; and

20 providing the receiving apparatus with the made value-added information.

28. Data comprising information specifying each predetermined time segment and an average value of vital data of a plurality of subjects calculated for each predetermined time segment, the
25 information and the average value being associated with each other.

29. A receiving apparatus in a system in which a server, said receiving apparatus and a plurality of measurement instruments are
30 connected to each other via a communication network, said receiving apparatus comprising

an output unit operable to receive information provided by

the server, and operable to output, by presenting, the information, wherein, in the system,
each of the measurement instruments includes:
a vital data measurement unit operable to measure vital data
5 of a subject;
a clock unit operable to detect measurement time at which
the vital data is measured; and
a sending unit operable to send, to the server, a set of
information including the measured vital data and the measurement
10 time,
the server includes:
a receiving unit operable to receive, from a plurality of
measurement instruments, a plurality of sets of information, one of
which being the set of information;
15 a storage unit operable to hold the plurality of sets of
information;
a database making unit operable to store the received
plurality of sets of information into said storage unit and operable to
make a database;
20 a value-added information making unit operable to compute
the vital data of a plurality of subjects stored in the database and the
respective measurement time in an associated manner and operable
to make value-added information indicating changes over time of
the vital data of the plurality of subjects; and
25 a value-added information providing unit operable to provide
said receiving apparatus with the made value-added information,
wherein said output unit is operable to receive the
value-added information provided by said value-added information
providing unit, operable to output, by presenting, the value-added
30 information.